

Remarks:

Applicant has studied the Office Action dated February 14, 2003, and has amended the claims to distinctively claim the subject matter of the invention. By virtue of this amendment, claims 1-10 have been amended, claims 11-16 have been canceled; and new claims 17-20 are added. No new matter has been added. Support for the new claims and the amendments is found within the specification and the drawings. It is submitted that the application, as amended, is in condition for allowance. Reconsideration and reexamination are respectfully requested.

The Examiner objected to Figures 1A and 1B of the drawings for failing to comply with MPEP § 608.02(g). In response, Applicant has amended Figures 1A and 1B by adding the legend "PRIOR ART" to both figures, as indicated on the corrected drawings attached hereto. Figure 1A has been also amended to correct the spelling of the word "direction". A replacement sheet including amended Figures 1A and 1B is provided. Accordingly, it is respectfully submitted that the objection to the drawings should be withdrawn.

Claims 11-15 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the applicant regards as the invention. Claims 11-15 have been cancelled.

Claims 1-5, 8-11 and 13-15 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,146,441, issued to Akiba, et al. (hereinafter referred to as "the Akiba reference") in view of U.S. Patent No. 4,592,037, issued to Ohnuki (hereinafter referred to as "the Ohnuki reference"). The Examiner contends that it would have been obvious to provide the magnetic circuit for tilting motion of the Ohnuki reference with the optical pick-up of the Akiba reference for the purpose of allowing independent movement in three directions while maintaining an overall compact size. This rejection is respectfully traversed.

The Akiba reference teaches a supporting device of an optical pickup for reproducing data on an optical disk. The pickup comprises a suspension base, a (lens) holder suspended from the suspension base by wires in a form of cantilever, an optical system provided in the holder, and focusing means for moving the holder so as to focus the optical system with respect to the optical disk. Accordingly, the purpose of pivoting the holder it to ensure that the optical system is maintained perpendicular to the optical disk at the time of reading.

It should be noted that the shaft 9a, as illustrated in FIGS. 4, is attached to the of the lens holder to guide its movement both in a tracking direction (i.e., on a plane parallel to the surface of the optical disk) and a focusing direction. Accordingly, the lens holder cannot rotate about the shaft 9a in a tilting motion. The tilting motion of the system disclosed in Akiba is made possible by way of two other mechanisms. The first mechanism, shown in FIG. 7, includes a driving mechanism for inclining the guide shaft 9a about a shaft 9b to realize a tilt in a radial plane. (See col. 3, lns. 15-22) The second mechanism, shown in FIG. 2, includes a flexible wiring plate 17 that is bent in relation to the tilt of the shaft 9a to maintain the optical system's axis O in a line perpendicular to the optical disk. (See col. 3, lns. 25-45).

The Ohnuki reference teaches a device for displacing and supporting a pickup head in the coordinate axis directions of three coordinate axes (x, y, z) perpendicular to one another. The device includes at least one support member formed of viscoelastic material for supporting the driven member on a frame, which is tensioned and connected between the pickup head and the frame and has one end affixed to the pickup head. The pickup actuator also includes three coils having paths of current for generating lines of magnetic force in three directions perpendicular to each other, whereby the pickup holder can be independently driven for movement in three axis directions perpendicular to one another.

It is noteworthy that the Ohnuki reference does not teach, suggest, or disclose a system wherein the pickup holder tilts or rotates about an axis as a result of electromagnetic forces. Instead, the Ohnuki reference teaches away from any "tilting movement" or "rotation about an axis" by repetitively iterating that the pickup holder can move only in three directions along the axes x, y, z that are perpendicular to one another, such that "no tilting of the optical axis will occur". (See col. 2, lns. 59, 62; col. 4, lns. 16-20; col. 5, lns. 19-24 and 41-68; also see FIGS. 10-12).

It is well settled that there must be some motivation or suggestion to combine, in the prior art references themselves, to come up with the claimed invention. That is, prior art references in combination do not make an invention obvious unless something in the prior art references would suggest the advantage to be derived from combining the teachings." In re Sernaker, 217 USPQ 1, 6 (Fed. Cir. 1983).

It is respectfully submitted that the cited prior art references cannot be combined to teach the claimed invention. Further, even if one is modified in accordance to the teaching of the other, the resultant modification would be an impractical or inoperable combination. For example, in order to

modify the device of Akiba et al. in accordance with the teachings of the Ohnuki reference, the entire flexible wiring plate 17 will have to be replaced with the magnetic system disclosed by Ohnuki.

There is no indication in the Office Action, how such combination is possible, as the two systems are independently complex and cannot be easily modified to work with each other. Further, even if the two systems can be combined, the resultant combination will not function to accomplish the tilting motion provided by the flexible wiring plate 17. This is because the system disclosed by Ohnuki does not operate to realize a rotational movement for the lens holder. Ohnuki's magnetic system only moves the lens holder in perpendicular planes and cannot operate to tilt the lens holder. Therefore, the two references cannot be combined to teach the claimed invention.

Further more, "[i]n rejecting claims under 35 U.S.C. § 103, the examiner bears the initial burden of presenting a prima facie case of obviousness. 'A prima facie case of obviousness is established when the teachings from the prior art itself would appear to have suggested the claimed subject matter to a person of ordinary skill in the art.' In re Rijkaert, 28 USPQ2d 1955, 1956 (Fed. Cir. 1993). The Akiba reference, neither alone nor in combination with the Ohnuki reference, teaches or describes the claimed invention, as amended.

That is, Neither Akiba et al. nor Ohnuki teach or disclose an elongated frame having first and second opposite ends, said frame comprising a support means connected to said first and second opposite ends for supporting a lens holder in a first suspended state with respect to a first plane, and a magnetic system in operational relationship with the first and second opposite ends of the frame, such that the magnetic system generates a magnetic field and at least the first end of the frame moves within the magnetic field to cause the frame to rotate about an elongated shaft running through the frame's first axis positioned between said first and second opposite ends of the frame, causing the support means to rotate the lens holder about the first axis to a second suspended state with respect to the first plane.

The applicant has also considered other cited references, including U.S. Patent No. 5,182,739, issued to Kime, et al. (hereinafter referred to as "the Kime reference"). The Kime reference also does not teach the claimed invention, because in the Kime reference, the objective lens remains horizontally level throughout focusing and/or tracking. As such, neither of the cited references teach or suggest the modification of tilting the objective lens and/or lens holder by way of rotation about a shaft as claimed. Particularly, neither of the cited references either alone or in combination suggest that the pickup

actuator can be rotated about a shaft running through the axis of the frame that supports the lens holder of the actuator.

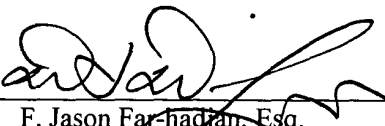
For the above reasons, the invention as recited in the amended claim 1 is distinguishable over the references cited by the Examiner. New claim 17 incorporates the discussed limitations of claim 1 and therefore claims 1 and 17 should be in condition for allowance. Claims 2-10 and 18-20, respectively depending on claims 1 and 17 should also be in condition for allowance.

No amendment made was related to the statutory requirements of patentability unless expressly stated herein; and no amendment made was for the purpose of narrowing the scope of any claim, unless Applicants have expressly argued herein that such amendment was made to distinguish over a particular reference or combination of references.

If for any reason the Examiner finds the application other than in condition for allowance, the Examiner is requested to call the undersigned attorney at the Los Angeles, California, telephone number (213) 623-2221 to discuss the steps necessary for placing the application in condition for allowance.


Respectfully submitted,  
LEE & HONG

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